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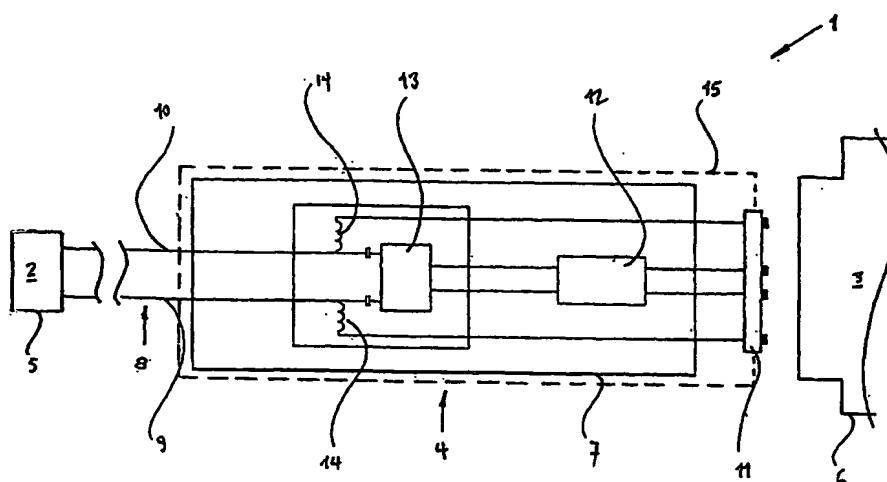
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(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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[Continued on next page]

(54) Title: COMMUNICATION SYSTEM, CONVERTER FOR USE THEREIN AND METHOD OF SIGNALLING



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(57) Abstract: A communication system comprises first and second devices (2,3) having respective housings (5,6); a data transmission line (8) for transmitting data between the devices in a reflective signalling format; and conversion means (4) connectable to the line externally of the housings (5,6) for converting data between a reflective signalling format and another format. A method of signalling between first and second devices (2,3) linked by a transmission line (8) and of sensing a security violation of the line (8) comprises the steps of (a) transmitting a signal from the first device to the second device, reflecting the signal back to the first device in a manner corresponding to a first bit sequence, receiving the signal thus reflected at the first device, and comparing this signal with the transmitted signal to determine whether there has been a security violation of the line and to extract the first bit sequence.



GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2004/001427

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L5/14 H04L29/06 H04L12/22 H04L1/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04L H03M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, INSPEC, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LENTZEN W: "Modems im Einsatz" 1992, DATACOM-VERLAG, BERGHEIM, GERMANY , XP002293938 Chapters 2.5.2, 4.2.1, and 5.2 ----- -----	1-11
X	WO 99/35780 A (WOOD JOHN) 15 July 1999 (1999-07-15) cited in the application page 9, line 31 - page 10, line 3 page 19, line 33 - line 35 page 23, line 28 - page 24, line 3 page 28, line 9 - line 15 figures 3,4,7 ----- -----	1-11

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

26 August 2004

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21.12.04

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INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>GRECAS C F ET AL: "Uninterrupted data transmission over GSM and application to health services" MELECON 2000. 10TH. MEDITERRANEAN ELECTROTECHNICAL CONFERENCE., vol. 1, 29 May 2000 (2000-05-29), pages 436-440, XP010518911 NEW YORK, USA page 436, right-hand column</p> <p>-----</p> <p>US 3 119 063 A (PERKINS JR J CARTER ET AL) 21 January 1964 (1964-01-21) claim 1</p> <p>-----</p> <p>US 3 205 312 A (PERKINS JR J CARTER ET AL) 7 September 1965 (1965-09-07) claim 1</p> <p>-----</p> <p>WO 02/056457 A (UNIV CALIFORNIA) 18 July 2002 (2002-07-18) page 1, line 10 - line 12 page 6, line 10 - page 7, line 11</p> <p>-----</p>	7-10
A		1-11
A		1-11
A		7-10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/001427

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11

Converter that is located externally of two communicating pieces of equipment and corresponding communication system

2. claims: 12-22

Method of sensing a security violation of a transmission line

INTERNATIONAL SEARCH REPORT

Information on patent family members

National Application No
PCT/GB2004/001427

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 9935780	A	15-07-1999	AT AU BG BR CA CN DE EP GB WO HU ID JP NO PL SK TR	279825 T 1975499 A 104674 A 9907288 A 2318569 A1 1292184 T 69921092 D1 1051819 A1 2349056 A 9935780 A1 0102910 A2 26895 A 2002501329 T 20003498 A 341593 A1 10432000 A3 200002021 T2		15-10-2004 26-07-1999 31-07-2001 17-10-2000 15-07-1999 18-04-2001 18-11-2004 15-11-2000 18-10-2000 15-07-1999 28-12-2001 15-02-2001 15-01-2002 08-09-2000 23-04-2001 10-05-2001 21-12-2000
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